

Grade Levels:

6-8

Subject Areas:

Biology, Botany,
Environmental Science,
Marine Biology

Duration:

6-8 weeks, 1-2 hours initially,
5-10 minutes per day
thereafter

Skills:

Problem solving, organizing,
interpreting, communicating
information

Effect of Flow Rate on Growth of SAV

(Between Tank Experiment)

Summary

Will changing the flow of water in the growth chambers affect SAV growth? Students set up two chambers with different flow rates and measure the plants to compare their growth over the duration of the project.

Maryland Voluntary State Curriculum:

Middle School	1.A.1	Design, analyze, or carry out simple investigations and formulate appropriate conclusions based on data obtained or provided.
	1.B.1	Review data from a simple experiment, summarize the data, and construct a logical argument about the cause-and-effect relationships in the experiment.
Grade 6	3.D.1	Explain that in any particular environment, the growth and survival of organisms and species depend on the physical conditions.
	3.F.1.a	Explain that populations increase or decrease relative to the availability of resources and the conditions of the environment.

Making Connections

You are growing bay grass to plant in the Chesapeake Bay to restore habitat for many bay creatures. Water in the Chesapeake Bay is almost always moving. You will simulate the growing conditions of the Chesapeake Bay in growth chambers. Does a constant flow of water affect the growth of SAV?



Materials

Per class/group of several classes:

One "Bay Grasses in Classes" standard growth kit

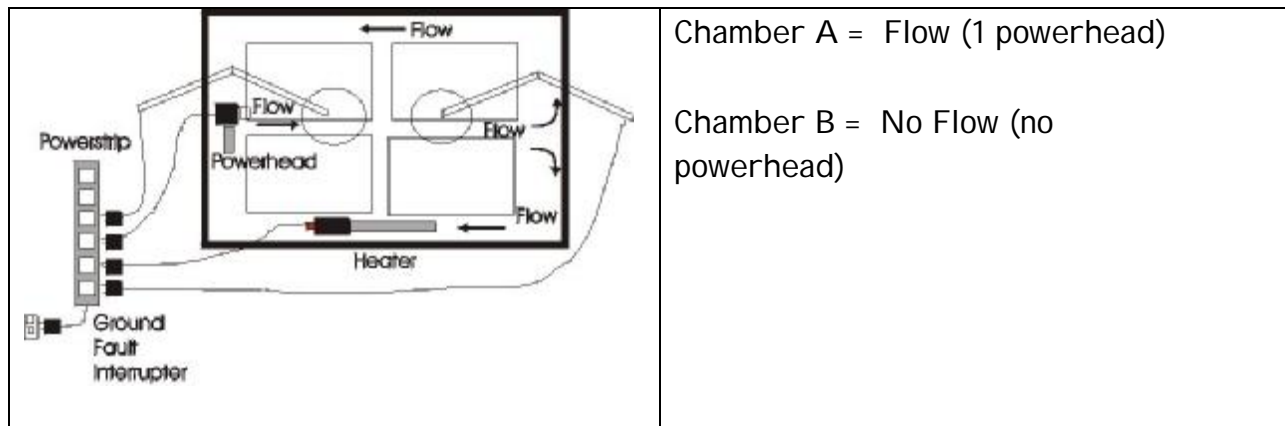
Background

Refer to the Fact Sheets for background information about your species of SAV. Visit the Bay Grasses in Classes website at

http://www.dnr.maryland.gov/bay/sav/bgic/classroom_resources.asp for additional background information.

Procedure

Set up the Bay Grasses in Classes Growth Chambers as instructed in the protocol, labeling one Chamber "A" and placing one powerhead in it. Label the other Chamber "B" but place no powerhead in it. See diagram below.



Record the growth of the SAV weekly on the Data Log. Follow the protocol directions for all other procedures (water addition, and water quality tests).

** To submit data each week, teachers should go to the online data entry page at <http://mddnr.chesapeakebay.net/bgic/loginindex.cfm>. If there are any problems with entering your data online, please fax your data log to Maryland DNR at 410-260-8859. Data logs can be found in the "System Set-up and Maintenance" section of this Teachers' Guide.



Assessment/Evaluation

Students should complete the Pre-lab and Post-lab Activities included in this Teachers' Guide. Students will compare the growth rates of the wild celery plants in the two chambers by creating a line graph of their data. Students will also draw a conclusion of their experiment.



